

## LEARNING ENVIRONMENT OF SELF-DIRECTED LEARNING ON WEB-BASED INSTRUCTION FOR CREATIVE THINKING DEVELOPMENT

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### ABSTRACT

*This study is conducted to serve two objectives; 1) to provide a learning environment of self-directed learning on web-based instruction for creative thinking development, and 2) to assess and certify the learning environment of self-directed learning on web-based instruction for creative thinking development. The participants of the study were 9 specialists selected by using purposive sampling technique. The specialists were necessitated to be experts in learning environment of self-directed learning on web-based instruction for creative thinking development with relevant experiences for at least three years. They were divided into three groups depended on their expertise: the first three were the experts in self-directed learning, the second three were the experts in web-based instruction, and the last three were the experts in creative thinking. This study used descriptive statistics such as average ( $\bar{X}$ ) and standard deviation (SD) to analyze and report the data.*

*The finding showed that 9 specialists assessed and certified the propriety of learning environment of self-directed learning on web-based instruction for creative thinking development which the learning environment is included the content stated about learning management which its propriety was assessed at the highest average level. In the second element of self-directed learning consisted of 5 components which each of them received the highest average level ( $\bar{X} = 4.60$ ,  $SD = 0.50$ ). The five components are as follows: 1) Assess the task, the analysis of self-requirement, 2) Objectives, the objectives that are set, 3) Plan, the methodology in conducting plan and objective procedures, 4) Coaching, adviser, and 5) Evaluation, the evaluation of improvement in self-directed learning. All specialists had an opinion on the propriety of all components of self-directed learning that each of them earned the highest level of propriety. The finding from the evaluation and certification on propriety of learning environment of self-directed learning on web-based instruction for creative thinking development; Resource, learning and studying resources; Tool, the study tools, information technology, electronic media; Web board, the interaction with the system administrator; Counselor, the suggestion, one part of self-directed learning on web-based instruction was set to respond automatically within the self-directed learning on web-based instruction which the average was at the highest level ( $\bar{X} = 4.60$ ,  $SD = 0.50$ ). All specialists had an opinion on the propriety of all components in self-directed learning that each of them was suitable at high level.*

**KEYWORDS:** Learning Environment, Self-Directed Learning, Web-Based Instruction & Creative Thinking

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### INTRODUCTION

Learning environment of self-directed learning is significant to learners and instructors. The environment in the class, the pedagogical materials, and the indoor-of-classroom and outdoor-of-classroom location are the learning and teaching environments that provide the integrated learning approach (Ministry of education,

Department of Curriculum and Instruction Development, 2000: 1-3). Having good management will make the learning environment explicit especially, organizing the condition that help support the 4 learning characteristics as follows; (1) Student participation (2) Receiving comment (3) Experiencing success (4) Learning in sequence of the students (Chaiyoung Brahmawong and Wasana Tavikulsub, 2000: 45).

Learning environment of self-directed learning is the initiative thinking process of self-learning investigated by the self-requirement in learning, setting objectives, contacting others, finding learning resources, choosing learning strategies, and adding lesson plan and assessing the result from self-learning whether or not receiving help from others. Learners who initiate self-learning themselves can be better at learning than those who are initiated by others as they know their own objectives and they have high inspiration and determination. They can use the advantage from learning to improve themselves as well as they will get more freedom in learning and self-responsibility. Besides, being a self-learner will improve his/her ability to be accordance with the new education system, new curriculum, open classroom, academic service center, independent study, and learning program for people outside. Open university help learners be able to live in the changeable community; therefore, self-learning is a lifelong process (Knowles. 1975: 14 – 15). In self-directed learning, learners will have an opportunity to do academic activities with others. Self-learning needs a voluntary mind including discipline and responsibility of learners to improve the skills in learning new knowledge found by themselves. Regarding that, this leads to life learning.

The learning environment of self-directed learning is developed to the learning environment on web-based instruction which increases the efficiency in learning and solves the problem of having limited places and time constraint. Learning on web-based instruction applies the qualification and resources of World Wide Web to provide the environment that supports the learning. Moreover, it was shown that learning on web-based instruction of learners had higher or equal result, compared with the learners who learn in the traditional learning approach. In addition, it was found that learners had higher satisfaction and more positive attitude toward learning on web-based instruction (Weera Thaipanich, 2008).

Learning on the network is the learning on web-based instruction that is connected with the internet. A lesson consists of content, exercises, pedagogy, additional learning resources, and criterion.

The process evaluation will be in the system that supports many people at the same or different time. There is a response, a multimedia, which are both motion and motionless, and the sound that learners can use for communication, discussion, and exchanging opinions between learners and instructors or between learners and learners. It is an open system which allows learners to access to the lesson anytime and anywhere. Learners have an opportunity to design lesson plan themselves, to learn in the satisfied environment, to have enough time to review and understand the lesson. The self-perceptive ability in learning on web-based instruction is compared as a center of facilitation of learning, assisting, and advising. Learners have a role in designing the lesson plan in accordance with the topic set in timetable. Learners can choose what they want to learn, and can question and exchange the opinions between the instructors and classmates. Additionally, they can track the assignment and send it on time. In self-learning, learners and instructors have an interaction toward these by using the learning on web-based instruction, which includes academic content, discussion, exchanging opinions, additional learning resources, sending the assignment, and the examination. The informative technology is used as a tool and procedure to make learners reflect their thoughts with strategies all the time such as rehearsing, adding, ordering, examining, understanding, and self-questioning. These make learners skillful in reflecting their thoughts for setting the objectives and helping learners look forward to improving themselves, compared with their

learning goals (Khan, 1997; Dillon, 1991; McInnis, 2002; Jaitip Nasongkha, 2007; Prachyanun Nilsook, 2005, as cited in Khemanat, 2009).

The learning environment of self-directed learning on web-based instruction brings up the creative thinking development. It is the development of brain that can think widely in many directions, called divergent thinking. Divergent thinking is the way of thinking that leads to the creative thinking and the successful discovery of problem solutions. The creative thinking consists of fluency, flexibility, and originality. The characteristic of people who have this kind of thinking is the ones who are brave, not afraid of criticism, and free-thinkers (Guilford, 1967).

Creative thinking is the brain process, it works as the divergent thinking that lead to the discovery of new things by adapting and adding things from the original thought, and mixing it with the new ones to successfully make new things including innovative invention altogether with the thoughts, the theories, and principles. but using imagination is also another pivotal reason to make innovation. However, it needs to go along with the effort that aims to make dreams come true; it is called applied imagination, and this will build up the work with creative thinking.

According to the importance of the learning environment of self-directed learning on web-based instruction for creative thinking development, learners are learning to important, and pedagogical environment for improving and supporting learners to succeed in learning. Regarding that, a researcher conducted this research interestingly on the learning environment of self-directed learning on web-based instruction for creative thinking development.

## **OBJECTIVES OF THE STUDY**

- To provide learning environment of self-directed learning on web-based instruction for creative thinking development.
- To assess and certify the learning environment of self-directed learning on web-based instruction for creative thinking development

## **SCOPE OF THE STUDY**

The scopes of the study as follows;

The population of the current study was the specialists in the learning environment of self-directed learning on web-based instruction for creative thinking development.

The participants were 9 specialists selected by using purposive sampling technique (Purposive Selection) which they needed to have related experience for at least three years that can be categorized as follows;

- Three specialists who were the experts in self-directed learning.
- Three specialists who were the experts in web-based instruction.
- Three specialists who were the experts in creative thinking.

The learning environment of self-directed learning on web-based instruction for creative thinking development would be developed from the opinions and assessment of these specialists.

## RESEARCH PROCEDURE

This current study is the research and development (R&D)

**Research Procedure Phase 1:** Organizing the learning environment of self-directed learning on web-based instruction for creative thinking development.

- Studying, analyzing, and synthesizing the data about designing the learning environment of self-directed learning on web-based instruction for creative thinking development, which includes ideas, principles of the learning environment of self-directed learning on web-based instruction for creative thinking development, and the related theories for using as a based information in designing the self-directed learning on web-based instruction for creative thinking development.
- Sending a draft of the learning environment of self-directed learning on web-based instruction for creative thinking development to an advisor for checking and then researcher revised the draft based on the advisor's suggestion.
- Drafting the learning environment of self-directed learning on web-based instruction for creative thinking development in the illustrated version.
- Bringing the draft of the learning environment of self-directed learning on web-based instruction for creative thinking development to the 9 specialists to assess the propriety of the content and the draft.
- According to the advice of each specialist, researcher brought it to improve the draft of the learning environment of self-directed learning on web-based instruction for creative thinking development.

**Research Procedure Phase 2:** Assessing and certifying the learning environment of self-directed learning on web-based instruction for creative thinking development. Then sent a draft to the advisor for checking and researcher revised the draft based on the advisor's suggestions.

- Presenting the form of the learning environment of self-directed learning on web-based instruction for creative thinking development to 9 specialists to assess and certify the learning environment. Researcher brought the self-directed learning lesson on web-based instruction for creative thinking development that was revised to specialists to check and certify the propriety. The evaluation and certification of the suitability of the learning environment of self-directed learning on web-based instruction for creative thinking development was done by specialists.
- After that, researcher collected the data from each of the 9 specialists to prepare, adjust, and improve the draft of the learning environment of self-directed learning on web-based instruction for creative thinking development.

**Table 1: Table below Shows the Results of the Assessment of the Propriety and the Certification of the Learning Environment of self-Directed Learning on Web-Based Instruction for Creative Thinking Development N = 9**

I. Learning Environment	Average ( $\bar{X}$ )	Standard Deviation (SD)	The Level of Propriety
1.The definition of the learning environment	4.60	0.55	The most
<b>Total</b>	<b>4.60</b>	<b>0.55</b>	<b>The Most</b>
II. The elements of the learning environment of self-directed learning	Average ( $\bar{X}$ )	Standard Deviation (SD)	The level of propriety
1. Assess the task	4.60	0.55	The most
2. Objective	4.60	0.55	The most
3. Plan	4.60	0.55	The most
4. Coaching	4.60	0.55	The most
5. Evaluation	4.60	0.55	The most
<b>Total</b>	<b>4.60</b>	<b>0.55</b>	<b>The Most</b>
III. The elements of the learning environment on web-based instruction	Average ( $\bar{X}$ )	Standard Deviation (SD)	The level of propriety
1. Resource	4.60	0.55	The most
2. Tool	4.60	0.55	The most
3. Web board	4.60	0.55	The most
4. Counselor	4.60	0.55	The most
<b>Total</b>	<b>4.60</b>	<b>0.55</b>	<b>The Most</b>

## RESEARCH FINDING

- Researching and searching for the pattern of the learning environment of self-directed learning on web-based instruction for creative thinking development from the related document and research. Researcher brought the synthesis of the data to write a draft.
- The development of the draft in the learning environment of self-directed learning on web-based instruction for creative thinking development by bringing this draft to do an in-depth interview with specialists for the successful improvement.



**Figure 1: The Pattern of the Learning Environment of Self-Directed Learning on Web-Based Instruction for Creative Thinking Development**

According to the Figure 1, it can be described as follows;

**Table 2: Table Below Shows the Learning Environment of Self-Directed Learning on Web-Based Instruction for Creative Thinking Development**

Self-Directed Learning	Learning on Web-Based Instruction	Creative Thinking
1. Assess the task means the analysis of self-requirement that when people want to learn by themselves, know that what interests them and they choose it.	• Resource, learning resource means learning resources on web-based instruction which self-learners can study, research, bring the knowledge and information to apply as a guide in the use of academic activities.	Fluency, the fluency in thinking.
2. Objective means the objectives set as a direction to design the content, pedagogical techniques, academic activities including the evaluation.	• Tool, learning tool means the information technology and the electronic media that help learners perceive and learn information more conveniently.	Flexibility, the flexibility in thinking.
3. Plan means planning; setting objectives, policy, project to meet the success.	• Web board, interacting with the system administrator means the place where learners can access to ask or follow the pedagogical process or when they do not understand any part in self-directed learning.	Originality, the initiative thought.
4. Coaching means adviser who is a big part in supporting learners to study in self-directed learning, suggesting learners in using materials.	• Counselor, advising means a part of self-directed learning on web-based instructor that can provide the suggestion and information by being set as an automatically response within the web-based instruction.	Elaboration, the elaboration in thinking.
5. Evaluation mean evaluating the improvement in self-directed learning		

Organizing the learning environment of self-directed learning on web-based instruction for creative thinking development is the facilitation that learners will receive when learning as self-directed learning on web-based instruction. It helps learners get easier and rapider learning which makes them have creative thinking from self-directed learning on web-based instruction. The learning environment is set on the web can make the learners feel interested and have responsibility control their ability in searching for new things themselves in order to achieve the objectives.

The elements of the learning environment of self-directed learning are as follows;

- Assess the task means the analysis of self-requirement that when people want to learn by themselves, know that what interests them and they choose it.
- Objective means the objectives set as a direction to design the content, pedagogical techniques, academic activities including the evaluation.
- Plan means planning; making a process; setting objectives, policy, and project and practical methodology to accomplish the objectives.

- Coaching means an adviser who is a big part in supporting learners to study in self-directed learning, suggesting learners in using materials.
- Evaluation means evaluating the improvement in self-directed learning of learners in organizing The learning environment on the web are as follows:
  - Resource, learning resource means learning resources on web-based instruction which self-learners can study, research, and bring the knowledge and information to apply as a guide in the use of academic activities.
  - Tool, learning tool means the information technology and the electronic media that help learners perceive and learn information more conveniently.
  - Web board, interacting with the system administrator means the place where learners can access to ask or follow the pedagogical process or when they do not understand any part in self-directed learning.
  - Counselor, advising means a part of self-directed learning on web-based instructor that can provide the suggestion and information by being set as an automatically response within the web-based instruction.

With regard to the learning environment of self-directed learning on web-based instruction for creative thinking development, the creative thinking can refer to the brain process that perform its ability in thinking in various ways, connecting the relation, having imagination and the performance in mentality and personality that lead to the new solution for problems or even the innovative invention that consists of components as follows;

The fluency in thinking (Fluency)

The flexibility in thinking (Flexibility)

The initiative thought (Originality)

The elaboration in thinking (Elaboration)

The evaluation of the propriety and the certification of the learning environment of self-directed learning on web-based instruction for creative thinking development showed that,

First elements, the content of Learning environment was in the highest level at the average ( $\bar{X} = 4.60$ ,  $SD = 0.50$ ). The second element, the element of Self-directed learning, consists of 5 subdivisions as follows;

Assess the task, the analyzing of self-requirement

Objective means the objectives which are set

Plan, planning; making a process; setting objectives

Coaching, adviser

Evaluation

Evaluation of the improvement of the self-directed learning was in the highest level at the average ( $\bar{X} = 4.60$ ,  $SD = 0.50$ ) which all specialists showed their opinions that all subdivisions in the suitable rating for all elements.

The third element, Learning environment on web-based instruction;

Resource, learning resource and research

Tool, learning tool, the information technology and the electronic media

Web board, interacting with the system administrator

Counselor, advising

The evaluation showed that the average was at the highest level ( $\bar{X} = 4.60$ ,  $SD = 0.50$ ) which all specialists showed their opinions that all subdivisions in self-directed learning were suitable in all elements.

To conclude, all 9 specialists assessed propriety and certified the learning environment of self-directed learning on web-based instruction for creative thinking development stated about the content that was proposed the evaluation of the propriety in learning management in the highest level ( $\bar{X} = 4.60$ ,  $SD = 0.50$ ). All 9 specialists had an opinion on the propriety of all components in self-directed learning that each of them was suitable at highest level and can bring them to develop the learning environment of self-directed learning on web-based instruction at high suitability.

## RECOMMENDATIONS

### General Recommendations

- There should be a study on the learning environment of self-directed learning on web-based instruction for creative thinking and a comparing of the effectiveness of learning and development of other skills to find out whether or not there is a difference.
- There should be other variables for improving the quality and the efficiency in learning which lead to the development of the learning environment of self-directed learning on web-based instruction for creative thinking.
- There should be a study on self-directed learning which is different from the study on the web in order to find out if there is an improvement in creative thinking.

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